THE SCOPE

Prepare for the future for it always comes — *Editor*

Articles by

H. E. Pine, D. O. S.
J. Rutberg and L. Mayers
Charles C. Poulos
Philip H. Regan
Malcolm Kates
Irving Greenblatt
Louis Vaniotis
Robert Kraus
R. W. Rosenthal
Arnelda Levine

May 1942

THE SCOPE

Published by the students of the Massachusetts School of Optometry

Boston, Massachusetts

LIBRARY
NEW ENGLAND COLLEGE OF OPTOMETRY
420 BEACON STREET
BOSTON, MASS. 02115

THE SCOPE

Presents

Amblyopic Treatment Technics

by H. E. Pine, Opt. D., F. A. A. O.

For the purposes of discussion this paper will confine itself to amblyopia ex anopsia. This type of amblyopia is strictly an optometric problem. There are two general types of amblyopia ex anopsia (hereafter referred to as simply amblyopia). We find those cases where the cortical connections were never developed and the eye has never enjoyed good vision. We also know the second type where good vision may have been developed but where, because of some difficulty, perhaps a high refractive error, a marked degree of imbalance or injury, one eye has been ignored and because of non-use, amblyopia has resulted. Corrective methods must pursue the same course for both these cases.

Any treatment to be successful must first create a *desire* to see and the ways devised to create this desire are many and varied.

When I was invited to present this paper before the Academy, I discovered that I had been given a subject which was at one and the same time as easy an assignment and as difficult a one as I could have been given. A very difficult one, for the reason that almost nothing has been written on the subject and I found no comprehensive sources of information from which to obtain the conclusions of others' efforts and from which I might benefit, but for the same reason the subject was an easy assignment, because my audience had no more sources of information than I, and in all probability were no more informed on this subject. I believe that more on amblyopia has been written by Peckham in "Squints and Heterophorias" than by all other writers combined and I commend his volume to you.

In this paper, I have studiously avoided presenting a dry discussion of sensory neurons, synapses and brain patterns. I have tried to treat only of practical means for the correction of amblyopia, which are applicable by the practicing optometrist in the average equipped office.

Most text books dismiss amblyopia ex anopsia with a mere mention and with the simple suggestion that the better eye be bandaged or otherwise occluded, possibly by the long continued use of atropine as an encouragement for the amblyopic eye to resume operation. We all know that in the vast majority of cases these techniques are totally ineffectual and worse because they consume time which might have been well used to better advantage.

I know of no simpler way to outline my methods of dealing with this problem than to preesnt two typical reports and to give step by step the procedure and the results obtained.

Case No. 1

Walter A., age 27, office worker, consulted me wearing O. U. + 3.00 Sph.

Right convergent strabismus of 5 mm.

Visual acuity O. D. with "correction", doubtful perception.

Visual acuity O. S. with "correction", 100% = (20/20).

Gave history of being "blind in right eye always, and that several oculists had told him that nothing could be done for his right eye except an operation which would make it look better but would not help his sight."

Motility of both eyes normal.

Ophthalmoscopic picture both eyes normal.

Ophthalmometer reading O. U. + 1.00 × 90.

Skiascopic finding O. U. + 4.00 D. Sph. = + 0.50 D. Cyl. axis 90.

Visual acuity with Rx O. D. doubtful light perception.

O. S. 100% = (20/20).

Right convergent strabismus 5 mm.

Pupillary reaction to strong light stimulus:

O. D. very sluggish,

O. S. normal.

Treatment instituted:

O. S. totally occluded and O. D. subjected to a focused light of sufficient strength to obtain positive information from patient that he "was sure light was lit". In this case, it required a light of 200 watts, placed ten inches before the patient with a condensing lens of 20 D., interposed at a distance of two inches from his eye. This light was connected with a flashing device and was timed to flash on and off at a speed which would allow a full contraction of the iris on each flash and a full relaxation between flashes. At first treatment, this was but 15 flashes per minute. Time of first treatment twenty minutes. Second treatment, following day. Same technique, except that 100 watt bulb was sufficient to allow patient to be positive of sensation of light and to be able to detect changes in color. Pupillary reaction quickened so that 25 flashes per minute could be given.

Third treatment following day. 25 watt light could be detected with 30 flashes per minute.

Fourth treatment. two days later. Patient reported being "able to tell time on his wristwatch".

Visual acuity O. D. 30% O. S. 100%.

Treatments changed to a revolving disc made up for this occasion and which Peckham describes on page 114 of "Squints and Heterophorias", which I quote — "Pine uses a rapidly whirling disc of white cardboard on which are mounted four or five lozenge shaped areas of red tinfoil, glued to the card, not smoothly, but puckered up into cones, ridges and grooves, irregularly raised surfaces that catch and reflect the light, giving scintillating, ever changing radiations as the disc whirls. This is a most powerful, effective stimulant to dormant visual neurons. When thus awakened, the case is finished with the kratometer or other methods."

After two such treatments given with the left or good eye occluded, the bandage was removed and there was substituted a ruby filter before the left eye and it was discovered that the patient had binocular vision but diplopia. I gave sufficient base-prism to obtain fusion, these to be worn during treatments only.

Visual acuity after six such treatments:

O. D. 60%,

O. S. 100%.

He still had a right esotropia of 2 mm.

Patient then changed to Cameron's Myologic Unit where prescribed technique was followed.

Following ten such training periods —

Visual acuity:

O. D. 100% with orthophoria and stereopsis,

O. S. 100%.

Case dismissed.

Case No. 2

Stanley C., age 8½ years, school child.

History on this case was unattainable, as the child was an orphan recently adopted. He had a right exotropia of 8 mm.

Visual acuity:

O. D. no measurable amount ("blind").

O. S. 120%.

Motility both eyes normal.

Ophthalmoscopic picture normal.

Ophthalmometer reading:

O. D. + 150 × 95.

O. S. + 0.75 × 85.

Skiascopic finding:

O. D. + 1.50 D. Sph. = + 0.75 D. Cyl. axis 95.

O. S. + 1.00 D. Sph. = + 0.25 D. Cyl. axis 85.

Visual acuity with Rx:

O. D. no measurable amount.

O. S. 120%.

Corrected, his right divergent strabismus was the same as without lenses. Pupillary reaction to light normal O. U. The following treatment was instituted:

Same as in Case No. 1 for one week. Second week reflex drawing technique with CorrectEYEgraphs. (One very peculiar detail I would mention here. The image formed by

the diverging amblyopic eye was fairly accurate from the start as to detail but only about two-thirds the size of the original as seen by the "good" eye. As the treatments were continued and the vision improved, the drawings were done with increasing exactness of detail and with an in increasing likeness of size.)

Re-examination following second week's treatment.

Visual acuity:

O. D. 90% with correction.

O. S. 120% with correction.

He now showed a right exotropia of 3 mm. He was next furnished with hand stereoscope, with cards for home work.

Because of cold contracted by patient, no office treatmtents given for two weeks, but home work was continued.

Re-examination at end of this period. O. D. 120%. O. S. 120%. Eyes cosmetically straight. Three (3) prism diopters exophoria at infiinity. Following this his home work continued daily for two weeks, check-up then showing orthophoria.

Patient continuing home use of Keystone View Co. photographic stereoscopic views to stimulate rather weak sense of stereoscopic vision, and he is now reporting monthly for observation.

Like other practitioners who have investigated ways and means of correcting amblyopia, I have found it is necessary to "tease the amblyopic eye to see". Of course, in a technical sense, the eye does not see, but as stated earlier in this paper, I am avoiding the highly technical in favor of the practical.

For a number of years, I prescribed the common black rubber snap-on blinder to be worn daily, but have abandoned this technique of total occlusion and have been using, with a far greater degree of satisfaction, a ruby filter made on the same design as the rubber blinder. The ruby filter permits enough vision so that alternating suppression is not encouraged to develop. This latter condition is likely to result in amblyopic cases where a squint exists. An added incentive to fusion is present when both eyes are permitted to be used at once. The results of my experimenting coincide with those reported by Peckham.

I have had satisfactory results by furnishing these young patients with red and white beads, exactly alike except for color, and having the child string these beads in alternate colors while wearing the ruby filter before the better eye. It is a conceded fact that any method which stimulates both the sight centers and the motor centers will secure quicker results and this principle can be utilized in numerous ways. I have had excellent results with the ball-in-cup game. This is a wooden cup on the end of a stick about a foot long, a wooden ball an inch in diameter, attached by a string to the handle. The trick is to swing the ball upward and catch it in the cup. I obtained a number of these and painted the balls a brilliant red and had young patients play this game while wearing the ruby filter. This is a strong incentive to use the amblyopic eye. The toy counter of the five and ten cent store will furnish many variations. Any toy which has moving parts of red or which can be painted red will hold the interest of children and gain their co-operation. We all know this co-operation is essential to success. Most children like to draw. All five and ten cent stores carry drawing books with outline drawings. I furnish these books and have children fill in the outlines with red pencils, the ruby filter being worn.

The light intensity should be reduced for the better eye below that registered by the amblyopic eye. The patient should report that "the light seems brighter" before the ambloypic eye. This result can be obtained by Ryers' suggestion of adding a smoke filter to the ruby.

Several years ago, I designed a luminous stereoscope arranged to flash. This was made for me by the American Optical Company. In this instrument, it was possible to control the illumination of each picture separately. I have used this with considerable success. Recently, a somewhat similar instrument has been offered the profession.

Cameron's Myologic Unit is equipped with a revolving cone in the larger end of which is placed a translucent chart with various sized

(please turn to page fifteen)

The Cosmetic Benefits of Eyeglasses

by Jerome Rutberg and Leon Mayers

Many young ladies are inclined to remark, "We're always being told by beauty experts that glasses do not detract from our appearance. If that is the case, why aren't heroines in magazine stories ever shown in glasses? And why in the movies is a pair of spectacles used to disguise a pretty girl and not until she takes them off, does the hero fall in love with her?"

Many mothers of to-day greatly mind having glasses fitted on their young sons and daughters. This proves how much lingering dissatisfaction there is having to wear even so universally accepted an aid to nature as glasses.

However, the vain female sex must be told the penalties of not wearing glasses when they are needed. These people should have explained to them the fact that glasses are preferable to frowns, squints and crows-feet, to say nothing of health and emotional "topsy-turviness."

So, granting that no one puts on glasses without some reluctance (though in delving into the history of spectacles, we learned that in the century following the invention of printing, glasses were often an affectation used to give the impression that the wearer could read) we repeat, nowadays the great variety in shapes of lenses, the custom-made frames that can be worn to accent a hat or dress, make having to wear spectacles more a challenge to good taste and knowledge of one's personal style, than a threat to one's appearance.

This careful selection of the proper shape of lens and the proper style of frame is as important for children as it is for adults. No longer does a youngster need to look "all spectacles" when the right ones can actually make a thin face look plumper and roly-poly faces look longer. Anyone can determine for himself the best type of lens shape by the following rules:

Decide first whether your face belongs in the short or long group. If short, draw a one inch square on a piece of paper; if long, draw a rectangle 1 1/4 inches long and 5/8 of an inch wide. Now, looking at the full face, note carefully, the outline, disregarding the features. You're likely to be surprised at what you see, for nature often uses the features to create illusions of length and breadth, just as what you are planning to do with eyeglasses. Next, sketch into the square or rectangle, the outside lines of the face, allowing the widest portion to extend the full width of your original diagram. Then, proceeding from the broadest point complete your diagram. The face you have sketched will fall into one of eight basic shapes, according to whether it is long or short, and whether the chin is pointed or square.

Now, suppose the results show a long face with a pointed chin, in this case angular spectacles, octagons and their variations, are out; neither do you choose circular lens outlines.

According to Mr. Eddie Senz, make up expert of Paramount Studios, THE SECRET IS TO HAVE THE SHAPE OF THE LENSES BOTH ECHO AND CONTRADICT YOUR FACIAL TYPE. In the case of the long face with the pointed chin, it is best that the lens, though rounded, be given a horizontal tone with an almost flattened upper edge (orbal or colonial dress). This gives a slight impression of width which in turn makes the face seem shorter. The lens is deep enough to reflect the long face, but the lower edge is definitely curved, though sufficiently blunted to soften the pointed chin line. A too short nose will seem longer if the bridge of the frame is nicely arched and set high on the nose.

Glasses must be kept scrupulously clean. They shouldn't be expected to do their work with a film of dirt on them. They should be worn in the exact position in which they were fitted or full benefit will not result. To secure the maximum beauty aid, the wearer should have at least two pairs. Jaunty frames in color for school, tinted lenses for sports or driving, rimless for business or club activi-

(please turn to page thirteen)

Soph Soap

by Irving Greenblatt

In Spring a young man's fancy lightly turns to thoughts of things the girls were thinking about all winter.

The Spring of '42 will long be remembered by our class. It was then that posterity was given the famed De Cesare, "Termite Theory on Evolution". It completely nullifies the work of Darwin and De Vries. In fact it is a revolutionary evolutionary idea. It goes something like this: if you cross a four-leafed clover and a four posted bedstead, all other things remaining equal, constant, and inversely proportional to the cosine of gamma — then all the children in the family will be either masculine, feminine, or neuter as the case may be. De Cesare hopes his theory will be recognized before he dies as he will be able to enjoy it more that way. In the meantime he is carrying on extensive experimentation at No. 64, crossing onion root tip and marinated herring.

It was also this Spring that Danielian and Gollinger joined the fightin' forces by getting engaged.

Woolf stopped seeing his latest girl, Eva, since he found out her last name was Jukes (and such an intelligent girl too).

Greenberg: "Does light travel through a vacuum?"

Epstein: "Why don't you put a flashlight in your mouth and see."

* * * * *

The handwriting on the wall in that little room on the third floor has aroused the Shakespeare in your editor. And so at the risk of losing my poetic license it is published forthwith:

The Sad Story of Young O'Toole from Optometry School

There was a young lad named O'Toole
Who enrolled at Optometry School.
He was ambitious and vigilant,
Intelligent and diligent
For O'Toole was nobody's fool.

He wasted no hours playing "hearts",
He wasted no hours playing pool,
He wasted no time
On women and wine
For O'Toole was nobody's fool.

He never smoked in the class room
Of infracted any school rule.
He never cheated,
And it's often repeated
That O'Toole was nobody's fool.

But then when the future looked brightest
Our hero learned Fate can be cruel;
For away he was wafted,
Yes, our hero was drafted
And now he's buck private O'Toole.

So play hearts, play poker, play pool,
Is the moral of this poem.
While the sun shines make hay,
Play poker all day,
And you'll be nobody's fool but your own.

And as the wrestler said as his opponent bent him double, "I feel my end draws near", so I'll close.

Greenbleat

-Junior Jests

(continued from page ten)

he'll be in practice.

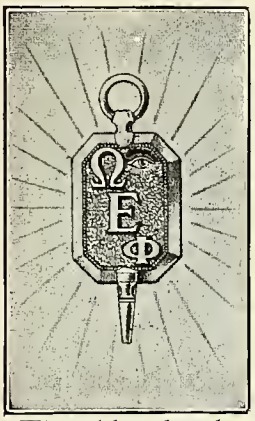
Jimmy Newman: After religion has been overthrown, he'll probably decide it's time to sell Bibles.

Phil Regan: So now it's 1962 — so what!

Give a Pint of Blood and Save a Life

Omega Epsilon Phi

by Louis Vaniotis



President
CLINTON L. WILSON

Vice President
JOHN E. QUINN

Recording Secretary
JOSEPH E. MACDERMOTT

Corresponding Secretary
JOSEPH A. CRAVEN

Treasurer
ROBERT D. KEFFERSTAN

The old order changes, yielding place to the new; and so considering life's course alterations must be made and accepted, much to our regret. No doubt those of the past (meaning our potential alumni and former senior brothers) will be more than missed and, therefore, we cannot help but pay our respects with deep consideration of their successes. To the following, then, we can say no more than "May your good thoughts and ideals remain with us and may your abilities be extended so that others may share them."

President — Henry Fine
Vice President — Robert Rodman
Recording Secretary — Stanley MacGaregill
Corresponding Secretary — David Essex

Louis Otis, Frank Garfi, Louis Upham, John Falino, Joseph Jacobs, Joseph Mittleman, Joseph Aleo, Ralph Barnard, Solomon Rosemark, Irving Fishman, Samuel Wasserman, and Herbert Iventash.

Incidentally, the Fraternity will now miss from their midst the only brother union bartender, namely Louis Otis; not to mention the firmness of our former president, Henry Fine, whose stern methods of conducting our meetings were more than welcome.

On the other hand, the Fraternity has been well compensated with greater hopes nad better possibilities by the potentialities of its newly

(please turn to page fourteen)

Pi Omicron Sigma

by Robert Kraus

ΠΟΣ

DR. R. H. GREEN, *Grand Chancellor*
BERNARD ISSOKSON, *Chancellor*
ROBERT KRAUS, *Vice Chancellor*
DANIEL COHEN, *Scribe*
IRVING FRADKIN, *Treasurer*
ROBERT LIPPIN, *Sergeant-at-Arms*

With the passing of a weekend, here we are back to resume classes not as juniors, sophomores, or freshmen, as we were a few short days ago: but as seniors, juniors, and sophomorse respectively. Yes, in the brief span of three days we have all taken another step toward achieving our professional goal.

To the graduating class of '42 I should like to extend from myself and Pi Omicron Sigma, the sincerest wishes for the best of luck and happiness in all your future endeavors. We realize that there will be some of the graduating class who may not get a chance to start their own practice for a while because they will be in Uncle Sam's armed forces, but to those boys let me say that your day will come, and when it does, I am sure that you will be amply rewarded.

Due to the change in schedule, no definite calendar has been made as yet for Pi Omicron Sigma's activities for the coming year, but I think we can safely say that in spite of the shortened year, we will have quite a full program. We will have, as in the past, our

(please turn to page fifteen)

"Elan Vital"

Many brave Yanks lie dead in the fox-holes
of Bataan,
Lying sodden and bathed in the blood of a
brave man.
They lived, fought, and fiercely died for what
was right.
May the rest of us follow their shining might.
Day and night they fought and died while
raining bombs fell,
So that you and I, Mom and Sis, will be saved
from a living hell.
To you brave men, brown and white, like
brothers
We hail thee, immortal men sprung from
human mothers.
We have caught up the torch from your failing
hand
And will fight and die to make a mad world
God's land.

Robert W. Rosenthal, '43

-The Cosmetic Benefits

(continued from page six)

ties, and the smart pince-nez for evening wear are a few of the many available styles.

To return to children, another mistake which often makes mothers hesitate to put glasses on youngsters who need them, is the idea "that they may weaken young eyes". We know that quite the opposite is likely to occur, for the many visutal tasks in school tend to make faulty sight grow worse if not corrected. MOREOVER, THE NERVOUS AND MUSCULAR ENERGY USED UP WHEN THE EYES ARE LEFT TO CORRECT DEFECTS ALONE, RESULTS IN FATIGUE AND OFTEN IN ACTUAL DULLNESS. Advice of this sort must be guided by the professional optometrist and should not be culled from the general advice given by the beauty expert.

Emery Grading

insures

Quality Beyond Question

Because a single oversize emery grain can ruin a lens surface, frequent microscope tests are made at the Shuron lens plant to insure uniform grains of predetermined size. Thus, even in auxiliarly operations the WIDESITE Lens standard of *Quality Beyond Question* is scrupulously maintained.

WIDESITE Wide Angle Lenses and Shurset Ful-Vue Mountings — the ideal combination

Shuron

WIDESITE

Epsilon Omicron Sigma

by Arnelda Levine

As the new writer of this column, the very first thing which I should like to do is to express our sincere thanks in behalf of the other girls to the past writer, Miss Janet Mechanic, for the excellent and entertaining articles which she has been contributing during the past year. I only hope that my endeavors shall meet with as much success as hers.

It is with joy and yet sorrow that we girls greet the oncoming of Graduation Day. To Janet and Maria, it signifies a great event in their lives, another milestone along their path to success and happiness. To us three remaining, it means a major victory for our very dearest friends: however, it also bears another thought — separation. The school years have not only bound us together as classmates but they have done something more for us — they have created a life-long perfect friendship which cannot be marred or broken though time and space may intervene. Famous and true are the immortal words, "Old friends, like old wine, grow more precious with age". So it is with pleasure and joy that we congratulate our two best friends and wish them fair weather and clear sailing ahead.

-Omega Epsilon Phi

(continued from page twelve)

elected officers. The future looks inspiring and continuation of our past reputation serves as our aim. Our gains are memorable and encouraging, and chances for greater strides are definitely in our favor. Our membership is constantly being increased and to those who may at some time seek admission we have something more to offer than their regular school activities.

Therefore, may we state below our aims in general as planned by our national headquarters.

"To promote the cause of Optometry by encouraging the study of its principles and problems and by striving for higher ethical and educational standards within the profession."

We believe even the smallest detail of major importance . . . .

We instruct our carefully trained staff to pay strict attention to your every instruction . . . .

We make your prescriptions the way you want them from the materials you specify . . . .

On this basis we have built our business and reputation for pleasing the discriminating.

We would like to include you among our customers, too.

WILSON AND HALFORD
OPTICAL COMPANY

387 Washington Street
Boston, Massachusetts

-Ambylopic Treatment

(continued from page five)

words behind which is a light flashing on and off as the cone revolves.

The Telebinocular made by Keystone View Company, makes use of specially designed charts to be traced by the amblyopic eye and the American Optical Company has recently brought out the Cheiroscope, developed by Maddox, of England. Both of these instruments utilize the same basic principles and follow the same essential steps, namely:

1. To restore vision in the amblyopic eye.
2. To link together in the visual brain-centers corresponding retinal points.
3. To build up the fusional urge and fusional reserves.

The old familiar drawback to home treatment was the difficulty with which we were able to get the co-operation of the patient and the impossibility of telling whether or not the patient was actually following instructions. By means of the Keystone CorrectEYEgraphs, it is now possible to require the home work to be turned in for inspection and filing as part of the case record.

The Telebinocular, like the Cheiroscope, can be used to develop co-ordination between hand and eye which greatly quickens the resire of the eye for vision by what we call the Reflex method. A CorrectEYEgraph is placed in the instrument with the picture or geometric design before the normal eye, this image is projected by the normal eye through the chiasm and by reflex action is projected through the amblyopic eye as though seen by the amblyopic eye. Its image will be seen as clearly as though it received the impression direct. A pencil is held in the hand and the picture which is apparently seen by the amblyopic eye is traced. This technique can be enlarged still further by having the patient fill in, in colors, any part of the drawing desired.

Each CorrectEYEgraph is calibrated with a metric scale showing the actual fusion distance and any deviation from the normal. These graphs are sufficiently intricate so that it is impossible for the patient to receive the impression through the dominant eye and then from memory copy it by using the amblyopic eye. Pictures must be traced, not copied. Copying tends to alternate monocular vision. Tracing stimulates binocular vision. Tracing requires co-ordination.

The ingenious optometrist will delight in exploring this almost virgin field and will, as he proceeds, develop a technique all his own. I know of no other phase of optometry which rewards the practitioner with a feeling of something tangible accomplished as does the awakening of vision in the amblyopic eye.

An abridgement of the material presented before the American Academy of Optometry at Chicago, December 19, 1932.

Reprinted from the transactions of THE AMERICAN ACADEMY OF OPTOMETRY. Volume VII, 1932.

-Pi Omicron Sigma

(continued from page twelve)

pledging of frat brothers, Hell Week, initiation, the annual Poverty Dance, the banquet, and lectures. We hope to have another Inter-Fraternity Ball like the one we had last March. Several picnics or "weenie-roasts" during the course of the summer are also going to be arranged.

We know that this will be one of the greatest years for Pi Omicron Sigma and with Dr. R. H. Green to advise us — by the way it's his *twelfth* year — we can't miss. Well, I will leave you now, but before I do I want to remind you all to purchase Savings Bonds and Stamps. Remember in protecting America you protect yourself.

Students:

The Scope is your publication - contribute to it.

-Editor

Yours For Tomorrow

OPTOMETRY THE PROFESSION

Optometry is to be your story—your life—your profession. As you tell it, live it, conduct it—so will it and you grow in stature in the eyes of those you serve.

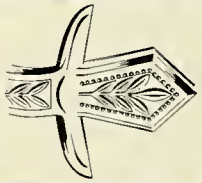
"No article of apparel, no ornament that adorns the body, is more conspicuously placed than one's glasses, and people will continue to think and talk about them for what they are—spectacles! Neither you nor we can change this. It is human. It is natural. It is inevitable. And you should not want to change it. What needs changing is the public's misconception of the relation of spectacles to eye comfort and efficiency."*

*From The AMERICAN Plan

THE American Optical COMPANY

Buy Defense Bonds

Correct design is never dated



LOXIT
THE BAUSCH & LOMB MOLDED RIVET MOUNTING

A large share of the world's architecture is patterned after the Parthenon. Its design was right 2000 years ago, is correct today. Loxit, the pioneer screwless mounting, was designed to function properly, to look right. Today, for real security and beauty in rimless, most practitioners prefer Loxit.

COLONIAL OPTICAL COMPANY
distributors of BAUSCH & LOMB products